UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/725,322	11/27/2000	Vinay Deo	MS1-685US	5892

22801 7590 03/30/2004	EXAMINER
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ART UNIT	PAPER NUMBER
2177	

SPOKANE, WA 99201

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/725,322	DEO ET AL.
	Examiner	Art Unit
	Harold E. Dodds, Jr.	2177

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 December 2003*.

2a)☒ This action is **FINAL.**   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle,* 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-53* is/are pending in the application.

    4a) Of the above claim(s) *7* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6 and 8-53* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly
claiming the subject matter which the applicant regards as his invention.

2.   Where applicant acts as his or her own lexicographer to specifically define

a term of a claim contrary to its ordinary meaning, the written description must clearly

redefine the claim term and set forth the uncommon definition so as to put one

reasonably skilled in the art on notice that the applicant intended to so redefine that

claim term. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52

USPQ2d 1029, 1033 (Fed. Cir. 1999). The term "exposes" in claims 2, 20, 30, and 41 is

used by the claim to mean "contains", while the accepted meaning is "shows." The term

is indefinite because the specification does not clearly redefine the term.

Claim Rejections - 35 USC § 102

3.   The following is a quotation of the appropriate paragraphs of 35

U.S.C. 102 that form the basis for the rejections under this section made in this Office

action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by
another filed in the United States before the invention by the applicant for patent or (2) a patent
granted on an application for patent by another filed in the United States before the invention by the
applicant for patent, except that an international application filed under the treaty defined in section
351(a) shall have the effects for purposes of this subsection of an application filed in the United States
only if the international application designated the United States and was published under Article 21(2)
of such treaty in the English language.

4.   Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Tobita

et al. (U.S. Patent No. 6,421,279).

Tobita anticipated independent claim 1 by the following:

"...a processor..." at col. 47, lines 26-29.

"...volatile memory and nonvolatile memory operatively coupled to the processor..." at

col. 45, lines 66-67, col. 46, lines 1-8, and col. 47, lines 26-29.

"...and a file system to manage access to one or more data files..." at col. 4, lines 58-60

and col. 31, lines 32-54.

"...stored in the volatile memory and in the nonvolatile memory..." at col. 45, lines 66-67

and col. 46, lines 1-8.

     5.   As per claim 8, the "...at least one application stored in the nonvolatile

memory...," is taught by Tobita at col. 6, lines 52-55, col. 45, lines 66-67, and col. 46,

lines 1-8,

the "...and executable on the processor...,"is taught by Tobita at col. 19, lines 65-67 and

col. 20, lines 1-3,

and the "...to request access to the one or more data files...," is taught by Tobita at col.

7, lines 30-34.

Claim Rejections - 35 USC § 103

     6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for

all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of

the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g)

prior art under 35 U.S.C. 103(a).

7.   Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Tobita as applied to claim 1 above, and further in view of Li (U.S. Patent No. 6,519,594).

As per claim 2, the "...that are used by an application to request the one or more

data files...," is taught by Tobita at col. 6, lines 52-55 and col. 7, lines 30-34,

the "...stored in the volatile memory and the nonvolatile memory....," is taught by Tobita

at col. 45, lines 66-67 and col. 46, lines 1-8,

but the "...file system exposes a set of application program interfaces...," is not taught by

Tobita.

However, Li teaches the use of file systems and application program interfaces

as follows:

```
"...Within the system architecture 120 of FIG. 3, the API layer
125 or application program interface is shown as the top layer.
The API 125 is associated with a JVM 130. Generally, only one
application is resident for a particular JVM 130. The device
module 135 includes a file system which can use a mini disk, a
hard disk, flash ROM, a CD-ROM and/or a tape storage device..."
at col. 6, lines 31-37.
```

It would have been obvious to one of ordinary skill at the time of the invention to

combine Li with Tobita since both Tobita and Li teach the use of computers, the use of

volatile memory, the use of nonvolatile memory, the use of tables, the use of files, the

use of file systems, the use of applications, and the use of functions. Tobita provides a

processor with both volatile and nonvolatile memory and a file system to manage the

access of data and Li provides the application program interface and functions with

parameters.

8.   Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Tobita and Li as applied to claim 2 above, and further in view of Chen (U.S. Patent No.

6,542,955).

As per claim 3, the "...individual functions defined in the set of application

program interfaces...," is taught by Li at col. 10, lines 31-39 and col. 6, lines 31-33,

the "...include a parameter...," is taught by Li at col. 14, lines 4-6,

but the "...identifying whether an associated data file is stored in the volatile memory or

the nonvolatile memory...," is not taught by either Tobita or Li.

However, Chen teaches the use of a flag to distinguish between data stored in

volatile or non-volatile memory as follows:

```
"...The state of the NVMEN flag 242 determines whether a data
memory access is into the non-volatile memory 220' or volatile
memory (e.g., into of the internal data SRAM 230, SFR 240 or
external data SRAM 212)..." at col. 6, lines 16-19.
```

It would have been obvious to one of ordinary skill at the time of the invention to

combine Chen with Tobita and Li since Tobita, Li, and Chen teach the use of

computers, the use of volatile memory, the use of nonvolatile memory, and the use of

functions and Li and Chen teach the use of networks. Tobita provides a processor with

both volatile and nonvolatile memory and a file system to manage the access of data, Li

provides the application program interface and functions with parameters, and Chen

provides a flag distinguishing whether data is stored in volatile or non-volatile memory.

9.   Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Tobita as applied to claim 1 above, and further in view of Chen (U.S. Patent No.

6,542,955).

As per claim 4, the "...file system comprises a memory region directory...,"

is taught by Tobita at col. 4, lines 58-60 and col. 38, lines 19-38,

the "...are stored in the volatile memory or in the nonvolatile memory...," is taught by

Tobita at col. 45, lines 66-67 and col. 46, lines 1-8,

but the "...to identify whether the one or more data files...," is not taught by Tobita.

However, Chen teaches identifying whether data is in volatile or non-volatile

memory as follows:

```
"...The state of the NVMEN flag 242 determines whether a data
memory access is into the non-volatile memory 220' or volatile
memory (e.g., into of the internal data SRAM 230, SFR 240 or
external data SRAM 212)..." at col. 6, lines 16-19.
```

It would have been obvious to one of ordinary skill at the time of the invention to

combine Chen with Tobita since Tobita and Chen teach the use of computers, the use

of volatile memory, the use of nonvolatile memory, the use of registers, and the use of

functions. Tobita provides a processor with both volatile and nonvolatile memory and a

file system to manage the access of data and Chen provides a flag distinguishing

whether data is stored in volatile or non-volatile memory.

10.   As per claim 5, the "...a memory region directory...," is taught by Tobita at

col. 38, lines 19-38,

the "...to identify whether the one or more data files are stored in the volatile memory or in the nonvolatile memory...," is taught by Chen at col. 6, lines 16-19,

and the "...and one or more file location specifiers to specify a physical location of the one or more data files...," is taught by Tobita at col. 5, lines 27-63.

11.   As per claim 6, the "...file location specifier comprises a file allocation table...," is taught by Tobita at col. 5, lines 27-63 and col. 2, lines 5-12.

12.   Claims 10-14, 18, 29, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tobita et al. (U.S. Patent No. 6,421,279) and Chen (U.S. Patent No. 6,542,955).

13.   Tobita renders obvious independent claim 10 as follows:

"...a processor..." at col. 47, lines 26-29.

"...volatile memory operatively coupled to the processor..." at col. 45, lines 66-67, col. 46, lines 1-8, and col. 47, lines 26-29.

"...the volatile memory storing volatile data in at least one data file..." at col. 45, lines 66-67, col. 46, lines 1-8 and col. 4, lines 34-37.

"...nonvolatile memory operatively coupled to the processor..." at col. 45, lines 66-67, col. 46, lines 1-8, and col. 47, lines 26-29.

"...the nonvolatile memory storing nonvolatile data in at least one data file..." at col. 45, lines 66-67, col. 46, lines 1-8 and col. 4, lines 34-37.

"...a memory region directory..." at col. 38, lines 19-38.

"...and a file location specifier to specify a physical location of the requested data file..." at col. 5, lines 27-63.

"...within the volatile memory or the nonvolatile memory..." at col. 45, lines 66-67 and

col. 46, lines 1-8.

"...identified by the memory region directory as containing the requested data file..." at

col. 38, lines 19-38 and col. 7, lines 30-34.

Tobita does not teach identifying whether data is in volatile or non-volatile

memory.

14.   However, Chen teaches identifying whether data is in volatile or non-

volatile memory as follows:

"...to identify whether a requested data file is located in the volatile memory or in the

nonvolatile memory..." at col. 6, lines 16-19.

It would have been obvious to one of ordinary skill at the time of the invention to

combine Chen with Tobita since Tobita and Chen teach the use of computers, the use

of volatile memory, the use of nonvolatile memory, the use of registers, and the use of

functions. Tobita provides a processor with both volatile and nonvolatile memory, a

memory region directory, and file location specifier and Chen provides a flag

distinguishing whether data is stored in volatile or non-volatile memory.

15.   As per independent claim 18, the "...means for handling a request for a

data file stored on the integrated circuit module...," is taught by Tobita at col. 32, lines 5-

10 and col. 6, lines 20-22,

the "...means for identifying whether the data file is located in volatile memory or

nonvolatile memory...," is taught by Chen at col. 6, lines 16-19,

and the "...and means for specifying a physical location of the data file within the volatile

memory or the nonvolatile memory...," is taught by Tobita at col. 5, lines 27-63.

16.   As per independent claims 29 and 32, the "...receiving a request for a data

file stored on the IC module...," is taught by Tobita at col. 32, lines 5-10 and col. 6, lines

20-22,

the "...identifying...whether the data file is located in volatile memory or nonvolatile

memory...," is taught by Chen at col. 6, lines 16-19,

the "...within the IC module...," is taught by Tobita at col. 6, lines 20-22,

and the "...and specifying a physical location of the data file within the volatile memory

or the nonvolatile memory...," is taught by Tobita at col. 5, lines 27-63.

17.   As per claim 11, the "...data file stored in the volatile memory is destroyed

when power is removed...," is taught by Tobita at col. 4, lines 26-29

and the "...from the IC module...," is taught by Tobita at col. 6, lines 20-22.

18.   As per claim 12, the "...memory region directory...," is taught by Tobita at

col. 38, lines 19-38

and the "...is stored in the nonvolatile memory...," is taught by Tobita at col. 45, lines 66-

67 and col. 46, lines 1-8.

19.   As per claim 13, the "...file location specifier comprises...," is taught by

Tobita at col. 5, lines 27-63,

the "...first file allocation table to specify physical locations of data files within

the volatile memory...," is taught by Tobita at col. 2, lines 5-12 and col. 5, lines 27-63.

the "...and a second file allocation table to specify physical locations of data files

within the nonvolatile memory...," is taught by Tobita at col. 2, lines 5-12 and col. 5, lines 27-63.

20.   As per claim 14, the "...the nonvolatile memory comprises both a read only memory and a read/write memory...," at col. 5, lines 27-63 and col. 37, lines 28-38, the "...and the file location specifier comprises...," is taught by Tobita at col. 5, lines 27-63,

the "...first table to specify physical locations of data files within the read only memory...," is taught by Tobita at col. 5, lines 27-63,

the "...second table to specify physical locations of data files within the read/write memory...," is taught by Tobita at col. 5, lines 27-63 and col. 37, lines 28-38,

the "...and a third table to specify physical locations of data files within the volatile memory...," is taught by Tobita at col. 5, lines 27-63.

21.   Claims 15, 16, 19, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tobita and Chen as applied to the claims above, and further in view of Li.

As per claim 15, the "...to enable an application...," is taught by Tobita at col. 34, lines 14-16

and the "...to access the data files in the volatile memory and the nonvolatile memory...," is taught by Tobita at col. 7, lines 30-34, col. 45, lines 66-67, and col. 46, lines 1-8, but the "...application program interface...," is not taught by either Tobita or Chen.

However, Li teaches the use of application program interfaces as follows:

"...Within the system architecture 120 of FIG. 3, the API layer 125 or application program interface is shown as the top layer.

The API 125 is associated with a JVM 130. Generally, only one
application is resident for a particular JVM 130. The device
module 135 includes a file system which can use a mini disk, a
hard disk, flash ROM, a CD-ROM and/or a tape storage device..."
at col. 6, lines 31-37.

It would have been obvious to one of ordinary skill at the time of the invention to

combine Li with Tobita and Chen since Tobita, Chen, and Li teach the use of

computers, the use of volatile memory, the use of nonvolatile memory, and the use of

functions, Tobita and Li teach the use of the use of tables, the use of files, the use of file

systems, and the use of applications, and Chen and Li teach the use of networks.

Tobita provides a processor with both volatile and nonvolatile memory, a memory region

directory, and file location specifier, Chen provides a flag distinguishing whether data is

stored in volatile or non-volatile memory, and Li provides the application program

interface.

22. As per claim 16, the "...initialization mechanism...," is taught by Tobita at

col. 28, lines 41-43,

the "...to delete any data from the volatile memory...," is taught by Li at col. 9, lines 40-

42, col. 10, lines 55-59, and col. 5, lines 47-55,

the "...and to remove any reference to data files in the volatile memory...," is taught by Li

at col. 9, lines 40-42, col. 9, lines 28-29, col. 10, lines 55-59, and col. 5, lines 47-55,

and the "...from the memory region directory...," is taught by Tobita at col. 38, lines 19-

38.

23.   As per claims 19 and 31, the "...means for deleting all data files in the

volatile memory...," is taught by Li at col. 9, lines 40-42, col. 10, lines 55-59, and col. 5,

lines 47-55

and the "...and for removing any reference to the data files that might be stored in the

nonvolatile memory...," is taught by Li at col. 9, lines 40-42, col. 9, lines 28-29, col. 10,

lines 55-59, and col. 5, lines 47-55.

24.   As per claim 30, the "...exposing functions to manipulate the data files...,"

is taught by Li at col. 10, lines 31-39 and col. 5, lines 3-7,

the "...same functions being used...," is taught by Li at col. 10, lines 31-39,

and the "...regardless of whether the data files are located on the volatile memory or

the nonvolatile memory...," is taught by Tobita at col. 45, lines 66-67 and col. 46, lines 1-

8.

25.   Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Tobita as applied to claim 1 above, and further in view of Nobakht et al. (U.S. Patent

No. 6,587,873).

As per claim 12, the "...embodied as a smart card...," is not taught by Tobita.

However, Nobkht teaches the use of smart cards as follows:

```
"...CPU 210 and system controller 211 also support a smart card
access protocol..." at col. 6, lines 34-35.
```

It would have been obvious to one of ordinary skill at the time of the invention to

combine Nobkht with Tobita since Tobita and Nobkht teach the use of computers, the

use of volatile memory, the use of nonvolatile memory, the use of tables, the use of

files, the use of applications, the use of functions, and the use of integrated circuits.

Tobita provides a processor with both volatile and nonvolatile memory and a file system

to manage the access of data and Nobkht provides the smart cards.

    26.   Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Tobita and Chen as applied to claim 10 above, and further in view of Nobakht.

    As per claim 17, the "...embodied as a smart card...," is not taught by Tobita.

    However, Nobkht teaches the use of smart cards as follows:

```
"...CPU 210 and system controller 211 also support a smart card
access protocol..." at col. 6, lines 34-35.
```

    It would have been obvious to one of ordinary skill at the time of the invention to

combine Nobkht with Tobita and Chen since Tobita, Chen, and Nobkht teach the use of

computers, the use of volatile memory, and the use of nonvolatile memory, Tobita and

Nobkht teach the use of the use of tables, the use of files, the use of applications, the

use of functions, and the use of integrated circuits, and Chen and Nobkht teach the use

of functions. Tobita provides a processor with both volatile and nonvolatile memory, a

memory region directory, and file location specifier, Chen provides a flag distinguishing

whether data is stored in volatile or non-volatile memory, and Nobkht provides the smart

cards.

    27.   Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Tobita et al. (U.S. Patent No. 6,421,279) and Li (U.S. Patent No.

6,519,594).

    28.   Tobita renders obvious independent claim 20 by the following:

"...a file system to manage access to data files..." at col. 4, lines 58-60 and col. 31, lines

32-54.

"...stored in both volatile memory and nonvolatile memory..." at col. 45, lines 66-67 and

col. 46, lines 1-8.

"...to expose the file system to applications..." at col. 4, lines 58-60 and col. 6, lines 52-

55.

Tobita does not teach the use of application program interfaces.

29.   However, Li teaches the use of application program interfaces as follows:

"...and an application program interface (API)..." at col. 6, lines 31-37.

It would have been obvious to one of ordinary skill at the time of the invention to

combine Li with Tobita since both Tobita and Li teach the use of computers, the use of

volatile memory, the use of nonvolatile memory, the use of tables, the use of files, the

use of file systems, the use of applications, and the use of functions. Tobita provides

both volatile and nonvolatile memory and a file system to manage the access of data

and Li provides the application program interface.

30.   As per claim 21, the "...API defines a function for opening a data file...," is

taught by Li at col. 6, lines 31-37 and col. 11, lines 14-20,

the "...function being used to open data files...," is taught by Li at col. 11, lines 14-20,

and the "...in the volatile memory and the nonvolatile memory...," is taught by Tobita at

col. 45, lines 66-67 and col. 46, lines 1-8.

31.   Claims 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Tobita and Li as applied to claim 2 above, and further in view of Chen.

As per claim 22, the "...API defines a function...," is taught by Li at col. 6, lines

31-33 and col. 10, lines 31-39,

the "...the function including a parameter...," is taught by Li at col. 10, lines 31-39 and

col. 14, lines 4-6,

but the "...specifying whether a data file resides in the volatile memory or in the

nonvolatile memory...," is not taught by either Tobita or Li.

However, Chen teaches the use of a flag to distinguish between data stored in

volatile or non-volatile memory as follows:

```
"...The state of the NVMEN flag 242 determines whether a data
memory access is into the non-volatile memory 220' or volatile
memory (e.g., into of the internal data SRAM 230, SFR 240 or
external data SRAM 212)..." at col. 6, lines 16-19.
```

It would have been obvious to one of ordinary skill at the time of the invention to

combine Chen with Tobita and Li since Tobita, Li, and Chen teach the use of

computers, the use of volatile memory, the use of nonvolatile memory, and the use of

functions and Li and Chen teach the use of networks. Tobita provides both volatile and

nonvolatile memory and a file system to manage the access of data, Li provides the

application program interface, and Chen provides a flag distinguishing whether data is

stored in volatile or non-volatile memory.

　　　　32.　　As per claim 23, the "...a memory region directory...," is taught by Tobita at

col. 38, lines 19-38,

the "...to identify whether the individual data files are stored in the volatile memory or in

the nonvolatile memory...," is taught by Chen at col. 6, lines 16-19,

and the "...and a file location specifier to specify a physical location of the requested

data file within the volatile memory or the nonvolatile memory...," is taught by Tobita at

col. 5, lines 27-63.

33.   As per claim 24, the "...file location specifier comprises...," is taught by

Tobita at col. 5, lines 27-63,

the "...first file allocation table to specify physical locations of data files within

the volatile memory...," is taught by Tobita at col. 2, lines 5-12 and col. 5, lines 27-63.

the "...and a second file allocation table to specify physical locations of data files

within the nonvolatile memory...," is taught by Tobita at col. 2, lines 5-12 and col. 5, lines

27-63.

34.   Claims 25-27 and 39-42 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Tobita et al. (U.S. Patent No. 6,421,279), Li (U.S. Patent No.

6,519,594), and Chen (U.S. Patent No. 6,542,955).

35.   Tobita renders obvious independent claim 25 by the following:

"...to access files stored in volatile memory and nonvolatile memory..." at col. 45, lines

66-67 and col. 46, lines 1-8.

"...and a memory region directory..." at col. 38, lines 19-38.

Tobita does not teach the use of application program interfaces and the

determination whether data is stored in volatile or non-volatile memory.

36.   However, Li teaches the use of application program interfaces as follows:

"...an application program interface to enable an application..." at col. 6, lines 31-33.

It would have been obvious to one of ordinary skill at the time of the invention to

combine Li with Tobita since both Tobita and Li teach the use of computers, the use of

volatile memory, the use of nonvolatile memory, the use of tables, the use of files, the

use of file systems, the use of applications, and the use of functions. Tobita both volatile

and nonvolatile memory, the access of data, and the memory region directory and Li

provides the application program interface.

Li does not teach the determination whether data is stored in volatile or non-

volatile memory.

37.   However, Chen teaches the determination whether data is stored in

volatile or non-volatile memory as follows:

"...to identify whether a file is stored in the volatile memory or the nonvolatile memory..."

at col. 6, lines 16-19.

It would have been obvious to one of ordinary skill at the time of the invention to

combine Chen with Tobita and Li since Tobita, Li, and Chen teach the use of

computers, the use of volatile memory, the use of nonvolatile memory, and the use of

functions and Li and Chen teach the use of networks. Tobita both volatile and

nonvolatile memory, the access of data, and the memory region directory, Li provides

the application program interface, and Chen provides a flag distinguishing whether data

is stored in volatile or non-volatile memory.

38.   As per independent claims 39 and 42, the "...storing volatile data in at

least one volatile data file in volatile memory...," is taught by Li at col. 5, lines 47-55 and

col. 6, lines 34-38,

the "...storing nonvolatile data in at least one nonvolatile data file in nonvolatile

memory...," is taught by Li at col. 5, lines 47-55 and col. 6, lines 34-38,

the "...receiving a request to access a particular data file...," is taught by Tobita at col. 7,

lines 3-15,

the "...determining whether the particular data file is stored in the volatile memory or the

nonvolatile memory...," is taught by Chen at col. 6, lines 16-19,

and the "...and locating the particular data file...," is taught by Tobita at col. 46, lines 59-

66.

39.   As per claim 26, the "...file location specifier to specify a physical location

of the file within the volatile memory or the nonvolatile memory...," is taught by Tobita at

col. 5, lines 27-63.

40.   As per claim 27, the "...first file allocation table to specify physical

locations of data files within the volatile memory...," is taught by Tobita at col. 2, lines 5-

12 and col. 5, lines 27-63

and the "...and a second file allocation table to specify physical locations of data files

within the nonvolatile memory...," is taught by Tobita at col. 2, lines 5-12 and col. 5, lines

27-63.

41.   As per claim 40, the "...using a file allocation table to locate the particular

data file...," is taught by Tobita at col. 2, lines 5-12 and col. 46, lines 59-66.

42.   As per claim 41, the "...exposing a common set of functions...," is taught

by Li at col. 11, lines 50-51 and col. 10, lines 31-39,

and the "...to manipulate both the volatile data files and the nonvolatile data files...," is

taught by li at col. 5, lines 3-7 and col. 5, lines 47-55.

43.   Claims 28, 33, 34, 37, 38, and 43 rejected under 35 U.S.C. 103(a) as

being unpatentable over Tobita et al. (U.S. Patent No. 6,421,279), Li (U.S. Patent No.

6,519,594), and Nobakht et al. (U.S. Patent No. 6,587,873).

44.   Tobita renders obvious independent claim 28 by the following:

"...and facilitate access to the volatile data file by one or more applications..." at col. 7,

lines 30-34 and col. 6, lines 52-54.

Tobita does not teach the storing of data in volatile memory and the use of a

smart card.

45.   However, Li teaches the storing of data in volatile memory as follows:

"...store data in a volatile data file within volatile memory..." at col. 5, lines 47-55.

It would have been obvious to one of ordinary skill at the time of the invention to

combine Li with Tobita since both Tobita and Li teach the use of computers, the use of

volatile memory, the use of nonvolatile memory, the use of tables, the use of files, the

use of file systems, the use of applications, and the use of functions. Tobita provides

access to volatile memory from applications and Li provides the storing of volatile data.

Li does not teach the use of smart cards.

46.   However, Nobakht teaches the use of smart cards as follows:

"...of the smart card..." at col. 6, lines 34-35.

It would have been obvious to one of ordinary skill at the time of the invention to

combine Nobakht with Tobita and Li since Tobita, Li, and Nobakht teach the use of

computers, the use of volatile memory, the use of nonvolatile memory, the use of tables,

the use of files, the use of applications, and the use of functions, Tobita and Nobakht

teach the use of integrated circuits, and Li and Nobakht teach the use of networks,

application program interfaces, and operating systems. Tobita provides access to

volatile from applications, Li provides the storing of volatile data, and Nobakht provides

the smart card.

47.   As per independent claims 33 and 38, the "...storing data in a volatile data

file in volatile memory...," is taught by Li at col. 5, lines 47-55 and col. 6, lines 34-38,

the "...of an integrated circuit module...," is taught by Tobita at col. 6, lines 20-22,

the "...receiving, from a requestor, a request to access the volatile data file...," is taught

by Tobita at col. 7, lines 3-5, col. 45, lines 66-67, and col. 46, lines 1-8,

the "...on the integrated circuit module...," is taught by Tobita at col. 6, lines 20-22,

the "...evaluating whether the requestor is authorized...," is taught by Nobakht at col. 8,

lines 39-41,

the "...to access the volatile data file...," is taught by Tobita at col. 31, lines 32-35, col.

45, lines 66-67, and col. 46, lines 1-8,

the "...and in an event that the requestor is authorized...," is taught by Nobakht at col. 8,

lines 39-41,

and the "...locating the volatile data file in the volatile memory...," is taught by Tobita at

col. 46, lines 59-66, col. 45, lines 66-67, and col. 46, lines 1-8.

48.   As per independent claims 43 and 45, the "...storing data produced by a

first application within a volatile data file within volatile memory...," is taught by Li at col.

5, lines 47-55 and col. 5, lines 35-36,

the "...in a smart card...," is taught by Nobakht at col. 6, lines 34-35,

and the "...and accessing the volatile data file from a second application...," is taught by

Tobita at col. 7, lines 30-34, col. 45, lines 66-67, col. 46, lines 1-8, and col. 6, lines 52-

55.

49.   As per claim 34, the "...data stored in the volatile data file is produced by a

first application...," is taught by Li at col. 5, lines 47-55 and col. 6, lines 35-36

and the "...requestor is a second application...," is taught by Nobakht at col. 8, lines 39-

41 and col. 7, lines 35-39.

50.   As per claim 37, the "...returning a handle to the volatile data file...," is

taught by Tobita at col. 24, lines 1-6, col. 45, lines 66-67, and col. 46, lines 1-8.

51.   Claims 35 and 36 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Tobita, Li, and Nobakht, and further in view of Chen.

As per claim 35, the "...and specifying a physical location of the volatile data file

within the volatile memory...," is taught by Tobita at col. 5, lines 27-63,

but the "...ascertaining that the volatile data file is located in the volatile memory...," is

not taught by either Tobita, Li, or Nobakht.

However, Chen teaches the use of a flag to distinguish between data stored in

volatile or non-volatile memory as follows:

```
"...The state of the NVMEN flag 242 determines whether a data
memory access is into the non-volatile memory 220' or volatile
memory (e.g., into of the internal data SRAM 230, SFR 240 or
external data SRAM 212)..." at col. 6, lines 16-19.
```

It would have been obvious to one of ordinary skill at the time of the invention to

combine Chen with Tobita, Li, and Nobakht since Tobita, Li, Nobakht, and Chen teach

the use of computers, the use of volatile memory, the use of nonvolatile memory, and

the use of functions, Tobita, Li, Nobakht, and Chen teach the use of registers, and Li,

Nobakht, and Chen teach the use of networks. Tobita provides receiving requests to

access to volatile memory and integrated circuit modules, Li provides storing data in

volatile memory, Nobakht provides for authorization of requesters, and Chen provides a

flag distinguishing whether data is stored in volatile or non-volatile memory.

52.   As per claim 36, the "...passing in a parameter...," is taught by Li at col. 14,

lines 4-6

and the "...that identifies the volatile data file as being stored in the volatile memory...,"

is taught by Chen at col. 6, lines 16-19.

53.   As per claim 44, the "...evaluating whether the second application is

authorized...," is taught by Nobakht at col. 7, lines 35-39 and col. 8, lines 39-41

and the "...to access the volatile data file...," is taught by Tobita at col. 7, lines 30-34,

col. 45, lines 66-67, and col. 48, lines 1-8.

54.   Claims 46, 47, 52, and 53 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Tobita et al. (U.S. Patent No. 6,421,279) and Ginter et al. (U.S.

Patent No. 6,427,140).

55.   Tobita renders obvious independent claim 46 by the following:

"...a processor..." at col. 47, lines 26-29.

"...a memory system operatively coupled to the processor, the memory system

including..." at col. 3, lines 56-62 and col. 47, lines 26-29.

"...volatile memory..." at col. 45, lines 66-67 and col. 46, lines 1-8.

"...read-only memory..." at col. 5, lines 27-63.

"...to one or more data files stored in the volatile memory, the nonvolatile memory or the read only memory..." at col. 45, lines 66-67, col. 46, lines 1-8, col. 44, col. 66-67, and col. 45, line 1.

"...includes an access control table configured to restrict access to portions of the memory system..." at col. 22, lines 60-65.

Tobita does not teach the use of reprogrammable non-volatile memory, operating systems, file management systems, and authorized applications.

56.   However, Ginter teaches the use of reprogrammable non-volatile memory, operating systems, file management systems, and authorized applications as follows:

"...electrically reprogrammable non-volatile memory..." at col. 121, lines 13-15.

"...configured to provide an operating system and a file management system..." at col. 15, lines 57-61 and col. 81, lines 34-36.

"...wherein the file management system is configured to manage access..." at col. 81, lines 34-36.

"...wherein the file system..." at col. 81, lines 34-36.

"...to authorized applications..." at col. 232, lines 23-29.

It would have been obvious to one of ordinary skill at the time of the invention to combine Ginter with Tobita since both Tobita and Ginter teach the use of computers, the use of volatile memory, the use of nonvolatile memory, the use of tables, the use of files, the use of file systems, the use of applications, and the use of functions. Tobita provides a processor with both volatile and nonvolatile memory and a file system to

manage the access of data and Ginter provides operating systems, file management

systems, and authorized applications.

57.   As per claim 47, the "...file system management exposes a set of

application program interfaces...," is taught by Ginter at col. 81, lines 34-36 and col. 7,

lines 37-40,

the "...that are used by an application to request the one or more data files...," is taught

by Tobita at col. 6, lines 52-55 and col. 7, lines 30-34,

the "...stored in the volatile memory and/or the nonvolatile memory....," is taught by

Tobita at col. 45, lines 66-67 and col. 46, lines 1-8.

58.   As per claim 52, the "...at least one application stored in the read only

memory...," is taught by Tobita at col. 6, lines 52-55, col. 44, lines 66-67, and col. 45,

line 1,

the "...and executable on the processor...,"is taught by Tobita at col. 19, lines 65-67 and

col. 20, lines 1-3,

and the "...to request access to the one or more data files...," is taught by Tobita at col.

7, lines 30-34.

59.   As per claim 53, the "...embodied as a smart card...," is taught by Ginter at

col. 8, lines 1-7.

60.   Claims 48-51 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Tobita and Ginter as applied to claim 47 above, and further in view of Chen.

As per claim 48, the "...individual functions defined in the set of application

program interfaces...," is taught by Ginter at col. 15, lines 17-23 and col. 4, lines 37-40,

the "...include a parameter...," is taught by Ginter at col. 18, lines 42-50,

but the "...identifying whether an associated data file is stored in the volatile memory or

the nonvolatile memory...," is not taught by either Tobita or Li.

However, Chen teaches the use of a flag to distinguish between data stored in

volatile or non-volatile memory as follows:

"...The state of the NVMEN flag 242 determines whether a data
memory access is into the non-volatile memory 220' or volatile
memory (e.g., into of the internal data SRAM 230, SFR 240 or
external data SRAM 212)..." at col. 6, lines 16-19.

It would have been obvious to one of ordinary skill at the time of the invention to

combine Chen with Tobita and Ginter since Tobita, Ginter, and Chen teach the use of

computers, the use of volatile memory, the use of nonvolatile memory, and the use of

functions and Ginter and Chen teach the use of networks. Tobita provides a processor

with both volatile and nonvolatile memory and a file system to manage the access of

data and Ginter provides operating systems, file management systems, and authorized

applications, and Chen provides a flag distinguishing whether data is stored in volatile

or non-volatile memory.

61.   As per claim 49, the "...file management system...," is taught by Ginter at

col. 81, lines 34-36,

the "...comprises a memory region directory...,' is taught by Tobita at col. 45, lines 66-67

and col. 46, lines 1-8,

and the "...to identify whether the one or more data files are stored in the volatile

memory or in the nonvolatile memory...," is taught by Chen at col. 6, lines 16-19.

62.   As per claim 50, the "...a memory region directory...," is taught by Tobita at

col. 38, lines 19-38,

the "...to identify whether the individual data files are stored in the volatile memory or in

the nonvolatile memory...," is taught by Chen at col. 6, lines 16-19,

and the "...and one or more file location specifier to specify a physical location of the

requested data files...," is taught by Tobita at col. 5, lines 27-63.

63.   As per claim 51, the "...file location specifier comprises a file allocation

table...," is taught by Tobita at col. 5, lines 27-63 and col. 2, lines 5-12.

Response to Arguments

64.   Applicant's arguments filed 23 December 2003 have been fully considered

but they are not persuasive. In the first argument concerning the 35 U.S.C. rejection of

claims 2, 20, 30, and 41 on page 19, paragraph 3, the Applicants state:

"The Office Action states (p. 3, item 3) that "Where applicant acts as his or her own
lexicographer...." The Office Action states that the term "exposes" in claims 2, 20, 30
and 41 is used to mean "contains", and that the accepted meaning is "shows" and then
states that Applicant's usage gives rise to indefiniteness in those claims. Applicant finds
this puzzling at least in part because the Office Action does not state that such claims
are rejected on indefiniteness grounds. Clarification is requested."

The Examiner has been unable to find any instances of the use of the word "expose" in

the specification. It would be desirable if the Applicant would identify the pages in the

specification that support claims 2, 20, 30, and 41 in order to interpret the meaning of

these claims. Merriam-Webster's Collegiate Dictionary, Tenth Edition provides several

definitions of the word "exposure". A few of these definitions are as follows:

1. to set forth or explain.

2. to submit or make assessable to a particular action or influence.

3. to make known or bring to light.

4. to cause to be visible or open to view.

The Examiner requests further guidance on which of these definitions is used for the

word "expose" in these claims and strongly recommends that the Applicants find other

phrasing for these claims to more clearly set forth their meaning.

> 65.   In the second argument for independent claim 1 on page 23, paragraphs 2

and 3, the Applicants state:

"In contrast, claim 1 recites "An integrated circuit (IC) module comprising: a processor;
volatile memory and nonvolatile memory operatively coupled to the processor; and a file
system to manage access to one or more data files stored in the volatile memory and in
the nonvolatile memory", which is not taught or disclosed by Tobita.
The Office Action cites (pp. 3, 4) diverse portions of Tobita as providing the various
elements described with reference to claim 1."

Claim 1 is extremely broad and appears to be no more than the description of a

computer. Many different computers would fit this description. Tobita teaches the

various features of the proposed invention as follows:

```
"...Numeral 4015 is a ROM which stores a control program and
numeral 4016 is a processor which executes the control program
for controlling the entire information processing system of the
invention..." at col. 47, lines 26-29.
```

```
"...FIG. 82 is a block diagram of an information processing
system according to the fourth embodiment of the invention,
wherein numeral 4001 is a CPU (central processing unit) which
executes programs and processes data, numeral 4002 is a flash
memory which is a large-capacity nonvolatile memory storing the
programs, data, etc., handled by the CPU 4001, and numeral 4003
is a cache memory which is a volatile memory temporarily storing
data such as data transferred from the flash memory and write
data from the CPU 4001..." at col. 45 lines 66-67 and col. 46,
lines 1-8.
```

"...A **file system** which enables **access** to areas of **data** at high speed is provided..." at col. 4, lines 66-67.

"...A flash memory system according to the second embodiment of the invention comprises a flash memory 2001 as storage media, a bus 2002 of an information apparatus used as a host of the flash memory system, an interface circuit 2003 consisting of registers, buses, etc., for interfacing with the host bus 2002, a controller (control section) 2004 which controls the entire flash memory system, an address translation table (information storage means) 2005 for converting from logical addresses used for the host to **manage file data** into physical addresses indicating physical storage locations, a write buffer 2006 for storing at high speed file data transferred from the host to raise apparent processing speed (therefore, volatile memory such as SRAM or DRAM meeting the demand for high-speed writing), a DMA (dynamic memory access) controller 2007 for overcoming the weak point that the operation speed of the controller 2004 is lower than that of the host bus 2002 to transfer data at high speed, and an interrupt information register (interrupt information storage means) 2008 for storing the operation state when processing is interrupted upon receipt of an **access** request from the host while data in the write buffer 2006 is being transferred to the flash memory 2001..." at col. 31, lines 32-54.

The last two teachings of Tobita when combined provide a file system, which manages the access of data.

      66.   In the third argument for claim 8 on page 27, paragraph 2, the Applicants state:

"Claim 8 recites "An integrated circuit (IC) module as recited in claim 1, further comprising at least one application stored in the nonvolatile memory and executable on the processor to request access to the one or more data files", which is not taught or disclosed by Tobita."

Tobita teaches the use of applications as follows:

"...If all the above-mentioned points are implemented, the three types of memory can cover various **applications** and the number of parts can be reduced compared with installation of a memory for each **application**..." at col. 6, lines 52-55.

Tobita teaches the use of storing programs (applications) in nonvolatile memory and executing programs with a processor as follows:

"...FIG. 82 is a block diagram of an information processing
system according to the fourth embodiment of the invention,
wherein numeral 4001 is a **CPU (central processing unit) which
executes programs** and processes data, numeral 4002 is a flash
memory which is a large-capacity **nonvolatile memory storing the
programs**, data, etc., handled by the CPU 4001, and numeral 4003
is a cache memory which is a volatile memory temporarily storing
data such as data transferred from the flash memory and write
data from the CPU 4001..." at col. 45 lines 66-67 and col. 46,
lines 1-8.

Tobita teaches requesting access for data files as follows:

"...The data stored in the buffer memory is transferred to the
flash memory when the external system, such as the host system,
does not make an access request, that is, when the flash memory
system waits for the external system to make an **access request.**
Thus, the transfer time is substantially hidden within the
entire memory system. All data requested to be written from the
host system is always stored in the buffer memory. Data is not
directly written into the flash memory, which has a slow write
speed, from the host system. **Data transfer** from the buffer
memory to the flash memory is started upon completion of data
write from the host system..." at col. 7, lines 30-39.

This combination of teaching by Tobita teaches the phrase "comprising at least one
application stored in the nonvolatile memory and executable on the processor to
request access to the one or more data files".

   67. In the fourth argument for independent claim 10 on page 31, paragraph 3,
the Applicants state:

"The Office Action states (p. 8) that "... a memory region directory..." is found in Tobita
at col. 38, lines 19-38. First, claim 10 recites "a memory region directory to identify
whether a requested data file is located in the volatile memory or in the nonvolatile
memory", which is not what is cited in the Office Action."

Tobita teaches "a memory region directory" at col. 38, lines 19-38 and Chen teaches "to

identify whether a requested data file is located in the volatile memory or in the

nonvolatile memory". Chen actually teaches the use of a flag for this purpose. However,

this function may also be stored in the memory region directory taught by Tobita.

      68.   In the fifth argument for independent claim 10 on page 32, paragraphs 1

and 2, the Applicants state:

"Second, the cited portion of Tobita discusses allocation of different portions 3108 and
3109 of a flash memory 312(), i.e., a non-volatile read write memory (see, e.g., cot. 36,
line 48 et seq., element 3106, line 64 et seq., Fig. 62). This passage thus describes
management of multiple sections of a non-volatile memory.
Third, Tobita only employs the term "directory" four times (cot. 2, lines 6, 9, 13 and 47),
and then only to describe shortfalls in prior art systems. As such, Tobita does not teach
usage of directories for memory management."

Tobita teaches the use of a memory management table, which serves as a directory for

memory block use as follows:

```
"...The block use table 3206 stores information as to whether or
not each block of the data memory section 3108 and the alternate
memory section 3109 is used.  The use state of one block is
represented by 1-bit information; in the embodiment, an unused
block is represented as 0 and a used block as 1.  An empty block
in the alternate memory section 3109 can be found by searching
the block use table for a "0" bit indicating an unused block.
The block use table 3206 starts at address 2020000H and
represents the use state of eight blocks per 1-byte use
information entry.  The least significant bit of one byte
represents the block having the smallest block number.  That is,
the 1-byte use information 3214 at address 2020000H represents
the use state of eight blocks from blocks 0 to 7.  For example,
if the bit sequence of the one byte is 11011111b (b denotes
binary notation), it indicates that only block 5 is unused.  The
region from addresses 2020000H to 2021DFFH represents the use
state of the data memory section 3108 and the region from
addresses 2021E00H to 2021FFFH represents the use state of the
alternate memory section 3109..." at col. 38, lines 29-38.
```

Clearly, a table that stores whether a block of a data memory section is used is a

memory management table.

69.   In the sixth argument for independent claim 10 on page 32, paragraphs 3

and 4, the Applicants state:

Fourth, Tobita teaches (col. 2, line 3 et seq.) that directories and FATS can cause
problems because they are more frequently written to than other portions of storage
media when this type of organization is employed with flash memories.

As such, Tobita teaches away from use of memory directories. It is improper to employ
a reference in a combination when the reference teaches away from the combination."

The applicants have suddenly jumped from their discussion of independent claim 10 to

claim 13, which is dependent on claim 10. FATS tables are not claimed in independent

claim 10. The use of FATS tables is well known in the state of the art.

70.   In the seventh argument for independent claim 10 on page 33, paragraphs

2-4, the Applicants state:

"The Office Action states (p. 9) that "Chen teaches identifying whether data is in volatile
or non-volatile memory as follows:

"... to identify whether a requested data file is located in the volatile memory or in the
nonvolatile memory ..." at col. 6, lines 16-19." However, this is not what is recited in
claim 10. Claim 10 recites "...a memory region directory to identify whether a requested
data file is located in the volatile memory or in the nonvolatile memory...."

Tobita teaches "a memory region directory" at col. 38, lines 19-38 and Chen teaches "to

identify whether a requested data file is located in the volatile memory or in the

nonvolatile memory". Chen actually teaches the use of a flag for this purpose. However,

this function may also be stored in the memory region directory taught by Tobita.

71.   In the eighth argument for independent claim 10 on page 34, paragraph 1,

the Applicants state:

"Further, the Office Action cites diverse portions of Tobita (p. 8, item 14) as corresponding to various affirmatively-recited aspects of the subject matter of claim 10 and states (p. 9) that "Tobita does not teach identifying whether data is in volatile or non-volatile memory". The Office Action then states (p. 9, item 15) that Chen provides such teaching. The Office Action then offers the naked conclusion that "It would have been obvious...." but fails to identify any motivation in either reference to modify and/or combine teachings."

It would have been obvious to one of ordinary skill at the time of the invention to combine Chen with Tobita since Tobita and Chen teach similar applications and use many of the same elements. Tobita and Chen teach the use of computers, the use of volatile memory, the use of nonvolatile memory, the use of registers, and the use of functions. Tobita provides a processor with both volatile and nonvolatile memory, a memory region directory, and a file location specifier and Chen provides a flag distinguishing whether data is stored in volatile or non-volatile memory. Tobita teaches the reading to and writing from memory and Chen teaches the accessing and control of memory. Both applications teach the use of volatile and non-volatile memory. Chen teaches the use of a flag to distinguish whether data is stored in the volatile or the non-volatile memory. The flag to distinguish whether data is stored in the volatile or the non-volatile memory taught by Chen compliments the file location specifier taught by Tobita.

72.   In the ninth argument for independent claim 10 on page 35, paragraph 3, the Applicants state:

"As there is no basis for the Examiner's contentions within the cited references, the only possible motivation for these contentions is hindsight reconstruction wherein the Examiner is utilizing Applicant's own disclosure to construct a reason for combining and/or modifying the teachings of the cited references. The Examiner is reminded that hindsight reconstruction is not an appropriate basis for a §103 rejection. (See, e.g., Interconnect Planning Corp. v. Fed, 227 USPQ 543, 551 (Fed. Cir. 1985); In re Mills, 16 USPQ2d 1430 (Fed. Cir. 1990) (explaining that hindsight reconstruction is an improper basis for rejection of a claim).)"

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). The response to the eighth argument has demonstrated that there is ample justification to combine the Tobita and Chen references.

73.   In the tenth argument for independent claim 18 on page 35, paragraph 4, the Applicants state:

"Additionally, independent claim 18 recites: "A file system for an integrated circuit module, comprising: means for handling a request for a data file stored on the integrated circuit module; means for identifying whether the data file is located in volatile memory or nonvolatile memory; and means for specifying a physical location of the data file within the volatile memory or the nonvolatile memory", which is not taught, disclosed, suggested or motivated by the cited references, alone or in combination."

Independent claim 18 is taught by a combination of references from Tobita and Chen. Tobita teaches "means for handling a request for a data file stored on the integrated circuit module" at col. 32, lines 5-10 and col. 6, lines 20-22, Chen teaches "means for identifying whether the data file is located in volatile memory or nonvolatile memory" at col. 6, lines 16-19, and Tobita teaches "and means for specifying a physical location of the data file within the volatile memory or the nonvolatile memory" at col. 5, lines 27-63.

74.   In the eleventh argument for independent claim 18 on page 35, paragraph

5 and page 36, paragraphs 1 and 2, the Applicants state:

"The Office Action cites (p. 9) Tobita, col. 6, lines 20-22 and col. 7, lines 30-34 as
providing "...means for handling the request for a data file stored on the integrated
circuit module...." Col. 6, lines 20-22 of Tobita states that: "The nonvolatile memory not
electrically erasable is used as a memory to store interface information, such as the IC
card internal configuration and access format." Such cannot possibly substitute for this
affirmatively-recited element.

Col. 7, lines 30-34 of Tobita states that: "The data stored in the buffer memory is
transferred to the flash memory when the external system, such as the host system,
does not make an access request, that is, when the flash memory system waits for the
external system to make an access request." This passage is unrelated to handling any
request for stored data files and instead relates to storage of data."

Tobita teaches the use of access requests for both reads and writes as follows:

```
"...In operation, when it becomes necessary to store or read
file data, the host sends an access request via the host bus
2002. When file data is stored, the host specifies the logical
address to store the data and transfers the data; when file data
is read, the host specifies the logical address on management
and requests that file data stored here should be
transferred..." at col. 32, lines 5-10.
```

The capability of using an access request to read a file stored on an integrated circuit

module is taught by combining the substitute teaching of Tobita at col. 32, lines 5-10 is

with the teaching of Tobita at col. 6, 20-22.

75.   In the twelfth argument for independent claim 18 on page 36, paragraph 3,

the Applicants state:

"The Office Action cites (p. 9) col. 6, lines 16-19 of Chen with respect to "means for
identifying whether the data file is located in volatile memory or nonvolatile memory".
The NVMEN flag 240 taught by Chen is used (col. 6, line 3 et seq.) to determine
whether to access an internal SRAM 234 or SFR 240 or a non-volatile memory 220. It
has no particular relationship to any data file (see, e.g., Table 1) and may be set by
either internal or external programs (see line 14). As a result, the proposed combination
does not provide the elements recited in claim 18."

Tobita teaches "a memory region directory" at col. 38, lines 19-38 and Chen teaches "to

identify whether a requested data file is located in the volatile memory or in the

nonvolatile memory". Chen actually teaches the use of a flag for this purpose. However,

this function may also be stored in the memory region directory taught by Tobita.

76.   In the thirteenth argument for independent claim 20 on page 36,

paragraph 4, the Applicants state:

"Further, independent claim 20 recites "An operating system for an integrated circuit (IC)
module, comprising: a file system to manage access to data files stored in both volatile
memory and nonvolatile memory; and an application program interface (API) to expose
the file system to applications", which is not taught, disclosed, suggested or motivated
by the cited references, alone or in combination."

Independent claim 20, is taught by a combination of references from Tobita and Li.

Tobita teaches "a file system to manage access to data files" at col. 4, lines 58-60 and

col. 31, lines 32-54, Tobita teaches "stored in both volatile memory and nonvolatile

memory" at col. 45, lines 66-67 and col. 46, lines 1-8, Li teaches "and an application

program interface (API)" at col. 6, lines 31-37, and Tobita teaches "to expose the file

system to applications" at col. 4, lines 58-60 and col. 6, lines 52-55.

77.   In the fourteenth argument for independent claim 20 on page 37,

paragraph 1, the Applicants state:

"The portions (col. 4, lines 58-60 and col. 31, lines 32-54) of Tobita cited in the Office
Action (p. 14, item 29) as providing "... a file system to manage access to data files ...."
are explicitly stated to use a flash memory, i.e., a nonvolatile memory, as a storage
medium. The latter passage describes temporary use of SRAM as a write buffer 2006 to
aid in the speed with which files can be transferred from a host to flash memory and
does not describe a file system as recited in claim 20."

Tobita teaches "stored in both volatile memory and nonvolatile memory" at col. 45, lines 66-67.

78.   In the fifteenth argument for independent claim 20 on page 37, paragraph 2, the Applicants state:

"The portion (col. 45, line 66 through col. 46, line 8) of Tobita cited (p. 15) in the Office Action as providing "...stored in both volatile memory and nonvolatile memory..." refers (see col. 4.5, line 64 et seq.) to a fourth embodiment again involving use of RAM for temporarily storing (see col. 46, line 6) data as a step towards storage of the data in nonvolatile memory for subsequent access."

Data stored temporarily on volatile memory is still stored in volatile memory. The phrase in question is broad and does not distinguish between temporary and longer term storage in volatile memory.

79.   In the sixteenth argument for independent claim 20 on page 37, paragraph 3, the Applicants state:

"The portions (col. 4, lines 58-60 and col. 6, lines 52-55) of Tobita cited (p. 15) in the Office Action as corresponding to "... to expose the file system to applications..." respectively refer to flash memory and multiple memories but are void of any mention of anything discernibly related to "an application program interface (API) to expose the file system to applications", as recited in claim 20. The passing mention of "application" in, col. 6 refers to a field of deployment for the system and does not refer to an application program."

The Applicant has chosen to use the indefinite word "expose" in this independent claim. The use of this word is discussed in the response to the first argument. The Examiner has chosen to interpret Tobita's use of the word application to mean one or more programs for the implementation of access to these various types of memories.

80.   In the seventeenth argument for independent claim 20 on page 37, paragraph 4 and page 38, paragraph 1, the Applicants state:

"The Office Action cites (p. 15) Li at col. 6, lines 31-37 as providing an application program interface. The application program interface 125 is described in this passage exclusively in the context of nonvolatile memories (device module 135, Fig. 3, listing mini disk, hard disc, flash ROM, CD ROM, tape). As a result, the proposed combination does not and cannot render unpatentable the subject matter recited in claim 20."

Li teaches the use of both volatile and non-volatile memories. The application program interface described by Li could be used with both types of memory.

81.   In the eighteenth argument for independent claim 25 on page 38, paragraph 2, the Applicants state:

"Moreover, independent claim 25 recites "A file system for an integrated circuit module, comprising: an application program interface to enable an application to access files stored in volatile memory and nonvolatile memory; and a memory region directory to identify whether a file is stored in the volatile memory or the nonvolatile memory", which is not taught, disclosed, suggested or motivated by the cited references, alone or in combination."

Independent claim 25 is taught by the combination of references from Tobita, Li, and Chen. Li teaches "an application program interface to enable an application" at col. 6, lines 31-33, Tobita teaches "to access files stored in volatile memory and nonvolatile memory" at col. 45, lines 66-67 and col. 46, lines 1-8, Tobita teaches "and a memory region directory" at col. 38, lines 19-38, abd Chen teaches "to identify whether a file is stored in the volatile memory or the nonvolatile memory" at col. 6, lines 16-19. All of these components have been discussed in great detail in responses to previous arguments.

82.   In the nineteenth argument for independent claim 28 on page 38, paragraph 4 and page 39, paragraph 1, the Applicants state:

"Yet further, independent claim 28 recites "A computer-readable medium storing computer-executable instructions that, when executed on a smart card, direct the smart card to: store data in a volatile data file within volatile memory of the smart card; and

facilitate access to the volatile data file by one or more applications", which is not taught, disclosed, suggested or motivated by the cited references, alone or in combination."

Independent claim 28 is taught by a combination of references from Tobita, Li, and

Nobakht. Li teaches "store data in a volatile data file within volatile memory" at col. 5,

lines 47-55, Nobakht teaches "of the smart card" at col. 6, lines 34-35, and Tobita

teaches "and facilitate access to the volatile data file by one or more applications" at col.

7, lines 30-34 and col. 6, lines 52-54.

83.   In the twentieth argument for independent claim 28 on page 39, paragraph

2, the Applicants state:

"The Office Action cites (p. 20) Tobita at col. 6, lines 52-54 and col. 7, lines 30-34 as providing "... and facilitate access to the volatile data file by one or more applications...". As noted above with reference to claim 20, the passing mention of "application" in col. 6 is a reference to a field of deployment and not to a software application executing on a processor. As noted above with reference to claim 18, the passage in col. 7 is unrelated to handling any request for stored data files and instead relates to storage of data.

The Examiner has chosen to interpret Tobita's use of the word application to mean one

or more programs for the implementation of access to these various types of memories.

84.   In the twenty-first argument for independent claim 28 on page 41,

paragraph 2, the Applicants state:

"Nobakht is cited (p. 20) as providing "...of the smart card...". However, this excerpt as provided in the Office Action fails to reflect the recitation of claim 28. Claim 28 recites "... computer-executable instructions that, when executed on a smart card, direct the smart card to: store data in a volatile data file within volatile memory of the smart card ...." Nobakht describes a conventional smart card 232 having a non-volatile memory 330 (see fig. 3B; col. 6, lines 42-49) and provides no mention of any volatile memory or volatile data files in the context of the smart card 232. Nobakht fails to provide (i) execution of computer-executable instructions (ii) that, when executed on a smart card (iii) store data in a volatile data file (iv) within a volatile memory (v) on a smart card, as recited in claim 28."

Independent claim 28 is taught by a combination of references from Tobita, Li, and

Nobakht. Li teaches "store data in a volatile data file within volatile memory" at col. 5,

lines 47-55, Nobakht teaches "of the smart card" at col. 6, lines 34-35, and Tobita

teaches "and facilitate access to the volatile data file by one or more applications" at col.

7, lines 30-34 and col. 6, lines 52-54. Nobakht's role is providing the smart card. The

roles of Tobita and Li have been described in detail to responses to previously

presented arguments.

85.   In the twenty-second argument for independent claim 29 on page 41,

paragraph 4, the Applicants state:

"As well, independent claim 29 recites "A method for operating an integrated circuit (IC)
module, comprising: receiving a request for a data file stored on the IC module;
identifying, within the IC module, whether the data file is located in volatile memory or
nonvolatile memory; and specifying a physical location of the data file within the volatile
memory or the nonvolatile memory", which is not taught, disclosed, suggested or
motivated by the cited references, alone or in combination."

Independent claim 29 is rendered obvious by the combined teachings of Tobita and

Chen. Tobita teaches "receiving a request for a data file stored on the IC module" at col.

32, lines 5-10 and col. 6, lines 20-22, Chen teaches "identifying...whether the data file is

located in volatile memory or nonvolatile memory" at col. 6, lines 16-19, Tobita teaches

"within the IC module" at col. 6, lines 20-22, and Tobita teaches "and specifying a

physical location of the data file within the volatile memory or the nonvolatile memory" at

col. 5, lines 27-63.

86.   In the twenty-third argument for independent claim 29 on page 42,

paragraphs 1 and 2, the Applicants state:

"The Office Action states (p. 10) that "... receiving a request for a data file stored on the IC module ..." is taught by Tobita at col. 6, lines 20-22 and col. 7, lines 3-15. Col. 6, lines 20-22 states that: "The nonvolatile memory not electrically erasable is used as a memory to store interface information, such as the IC card internal configuration and access format." This bears no apparent relationship to requests for data files.

This passage is unrelated to handling any request for stored data files and instead relates to storage of data. These passages are non sequitur to the aspects of claim 29 for which they are cited."

Tobita teaches the use of access requests for both reads and writes as follows:

"...In operation, when it becomes necessary to store or read file data, the host sends an access request via the host bus 2002. When file data is stored, the host specifies the logical address to store the data and transfers the data; when file data is read, the host specifies the logical address on management and requests that file data stored here should be transferred..." at col. 32, lines 5-10.

The capability of using an access request to read a file stored on an integrated circuit module is taught by combining the substitute teaching of Tobita at col. 32, lines 5-10 is with the teaching of Tobita at col. 6, 20-22.

87.   In the twenty-fourth argument for independent claim 29 on page 42, paragraph 3, the Applicants state:

"The Office Action states (p. 10) that "... identifying ... whether the data file is located in volatile memory or nonvolatile memory ..." is taught by Chen at col. 6, lines 16-19. However, this is not what is recited in claim 29. Claim 29 recites "identifying, within the IC module, whether the data file is located in volatile memory or nonvolatile memory". Chen provides no discussion whatsoever of IC modules. In fact, Chen is void of the terms "IC", "module" and "integrated circuit". Further, the cited passage is discussed above with reference to claim 10."

This phrase is taught by the combination of references from tobita and Chen. Chen teaches "identifying...whether the data file is located in volatile memory or nonvolatile

memory" at col. 6, lines 16-19 and Tobita teaches "within the IC module" at col. 6, lines

20-22.

88.   In the twenty-fifth argument for independent claim 33 on page 43,

paragraph 2, the Applicants state:

"Independent claim 33 recites "A method comprising: storing data in a volatile data file
in volatile memory of an integrated circuit module; receiving, from a requestor, a request
to access the volatile data file on the integrated circuit module; evaluating whether the
requestor is authorized to access the volatile data file; and in an event that the
requestor is authorized, locating the volatile data file in the volatile memory", which is
not taught, disclosed, suggested or motivated by the cited references, alone or in
combination."

Independent claim 33 is rendered obvious by the combined teachings of Tobita, Li, and

Nobakht. Li teaches "...storing data in a volatile data file in volatile memory...," at col. 5,

lines 47-55 and col. 6, lines 34-38, Tobita teaches "of an integrated circuit module" at

col. 6, lines 20-22, Tobita teaches "receiving, from a requestor, a request to access the

volatile data file" at col. 7, lines 3-5, col. 45, lines 66-67, and col. 46, lines 1-8, Tobita

teaches "on the integrated circuit module" at col. 6, lines 20-22, Nobakht teaches

"evaluating whether the requestor is authorized" at col. 8, lines 39-41, Tobita teaches "to

access the volatile data file" at col. 31, lines 32-35, col. 45, lines 66-67, and col. 46,

lines 1-8, Nobakht teaches "and in an event that the requestor is authorized" at col. 8,

lines 39-41, and Tobita teaches "locating the volatile data file in the volatile memory" at

col. 46, lines 59-66, col. 45, lines 66-67, and col. 46, lines 1-8.

89.   In the twenty-sixth argument for independent claim 33 on page 45,

paragraphs 1 and 2, the Applicants state:

"In a subsection entitled "THE PROPOSED MODIFICATION CANNOT RENDER THE
PRIOR ART UNSATISFACTORY FOR ITS INTENDED PURPOSE", this MPEP section

states that: "If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984) ...."
Inasmuch as modifying these teachings to arrive at the subject matter of the claim or attempting to adapt the teaching's of Tobita for such renders the teachings the reference unsatisfactory for their intended purpose, there is, as a matter of law, no motivation to modify the teachings of Tobita as suggested by the Office Action. Accordingly, the rejection of claim 33 should be withdrawn, and claim 33 should be allowed."

It would have been obvious to one of ordinary skill at the time of the invention to combine Tobita, Li and Nobakht since all three inventions have similar applications and Tobita, Li, and Nobakht use many elements in common. Tobita, Li, and Nobakht teach the use of computers, the use of volatile memory, the use of nonvolatile memory, the use of tables, the use of files, the use of applications, and the use of functions, Tobita and Nobakht teach the use of integrated circuits, and Li and Nobakht teach the use of networks, application program interfaces, and operating systems. Tobita provides access to volatile memory from applications, Li provides the storing of volatile data, and Nobakht provides the smart card. All three patents teach the use of volatile and nonvolatile memory. Tobita teaches the use of a file system to manage access to one or more data files. Li is a database application, which provides for the access of shared memory. Nobakht is a system that provides server access to memory. The common theme of all three inventions is that they are providing access to memory, which fits with the proposed invention, which is providing access to both volatile and nonvolatile memory.

90.   In the twenty-seventh argument for independent claim 39 on page 45, paragraph 3, the Applicants state:

"Independent claim 39 recites "A method comprising: storing volatile data in at least one volatile data file in volatile memory; storing nonvolatile data in at least one nonvolatile data file in nonvolatile memory; receiving a request to access a particular data file; determining whether the particular data file is stored in the volatile memory or the nonvolatile memory; and locating the particular data file", which is not taught, disclosed, suggested or motivated by the cited references, alone or in combination."

Independent claim 39 is rendered obvious by the combined teachings of Tobita, Li, and Chen. Li teaches "storing volatile data in at least one volatile data file in volatile memory" at col. 5, lines 47-55 and col. 6, lines 34-38, Li teaches "storing nonvolatile data in at least one nonvolatile data file in nonvolatile memory" at col. 5, lines 47-55 and col. 6, lines 34-38, Tobita teaches "receiving a request to access a particular data file" at col. 7, lines 3-15, Chen teaches "determining whether the particular data file is stored in the volatile memory or the nonvolatile memory" at col. 6, lines 16-19, and Tobita teaches "and locating the particular data file" at col. 46, lines 59-66.

91.   In the twenty-eighth argument for independent claim 39 on page 46, paragraph 6 and page 47, paragraphs 1 and 2, the Applicants state:

"Further, simply providing a conclusory statement that "It would have been obvious ...." fails to meet the standards set forth in the MPEP for establishing a prima facie case of unpatentability. These are set forth in MPEP §2143, entitled "Basic Requirements of a Prima Facie Case of Obviousness" (see also MPEP §706.020), §2141 et seq. and §2142).
This MPEP section states that "To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings." The references fail to teach or disclose the elements recited in the claims. Accordingly, the references cannot provide motivation to modify their teachings to arrive at the invention as claimed, and the Examiner has identified no such teaching or disclosure in the references. As a result, the first prong of the test cannot be met.

It would have been obvious to one of ordinary skill at the time of the invention to combine Tobita, Li and Chen since all three inventions have similar applications and

Tobita, Li, and Chen use many elements in common. Tobita, Li, and Chen teach the use

of computers, the use of volatile memory, the use of nonvolatile memory, and the use of

functions and Li and Chen teach the use of networks. Tobita both volatile and

nonvolatile memory, the access of data, and the memory region directory, Li provides

the application program interface, and Chen provides a flag distinguishing whether data

is stored in volatile or non-volatile memory. Tobita teaches the use of a file system to

manage access to one or more data files and Li is a database application, which

provides for the access of shared memory. The common theme of Tobita and Li is that

they are providing access to memory, which fits with the proposed invention, which is

providing access to both volatile and nonvolatile memory. Tobita teaches the reading to

and writing from memory and Chen teaches the accessing and control of memory. Both

applications teach the use of volatile and non-volatile memory. Chen teaches the use of

a flag to distinguish whether data is stored in the volatile or the non-volatile memory.

The flag to distinguish whether data is stored in the volatile or the non-volatile memory

taught by Chen compliments the file location specifier taught by Tobita.

Conclusion

92.   Applicant's amendment necessitated the new ground(s) of rejection

presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See

MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in

37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within
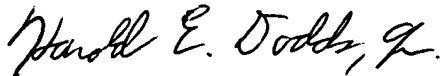
TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

93.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Harold E. Dodds, Jr. whose telephone number is (703)-305-1802. The examiner can normally be reached on Monday - Friday 8:00 - 4:30.
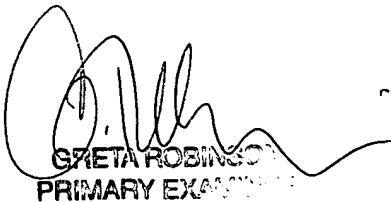
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Breene can be reached on (703)-305-9790. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Harold E. Dodds, Jr.
Patent Examiner
March 21, 2004

GRETA ROBINSON
PRIMARY EXAMINER